

ABSTRACT OF THE DISCLOSURE

Systems and methods for hydraulically and volumetrically dispensing target fluid. A hydraulic system includes an actuator, a hydraulic coupler that includes substantially incompressible hydraulic liquid, and a container. The container may include a slidable or movable plunger or wall that when moved forces the target fluid out of the container. The actuator includes a motor or driver, such as a step motor, linear actuator, servomotor, pneumatic motor, or other similar device, to drive a plunger or piston of the hydraulic coupler. The coupler includes a conduit, column, shaft or other leak proof assembly that acts as a conduit for the substantially incompressible hydraulic liquid and includes a plunger or piston that is selectively pushed by the incompressible hydraulic liquid, thereby driving a head of the plunger or piston to press against the wall or plunger of the container or syringe that contains the target fluid or against the target fluid, causing the target fluid to be dispensed therefrom. Furthermore, the system may include a controller that is configured to control the target fluid dispensed and to receive input from a user.

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